

## ABSTRACT

The present invention provides the method and apparatus for eliminating dead zone in a phase locked loop with binary quantized phase detectors. In a first embodiment, the present invention eliminates dead zone by changing the threshold used to quantize the cross point sample. A quantized cross point sample is integrated in order to set a new threshold. Furthermore, in a second embodiment, the integration is performed only during data transitions to eliminate threshold drift during long sequences where no transitions occur.